Statement

Of

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Airline Passenger Baggage Screening: Technology and Airport Deployment Update

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Mr. Chairman and members of the Subcommittee, my name is Bill Britz. I am a project manager for aviation security systems with Raytheon Technical Services Company LLC, which I will refer to as "RTSC." RTSC is a wholly-owned subsidiary of Raytheon Company.

Thank you for giving me the opportunity to testify before the Subcommittee today on RTSC's role in the Reveal Pilot Project at Newark Liberty International Airport.

The Reveal Pilot Project is just one of numerous projects in which RTSC has supported the Transportation Security Administration since its creation, primarily in the areas of equipment deployment and evaluation. RTSC has successfully helped the TSA design and implement over 60 walk-through explosive trace portals, 1,500 explosive detection systems, 1,600 explosive trace detectors, and 1,700 walk-through metal detectors. I have personally been a part of much of this work over the last four years of my 30-year career at Raytheon.

RTSC is a neutral party in these efforts in the sense that we do not design or manufacture any of the transportation security equipment that you see deployed at airports around the country. Instead, we work equally with all of the equipment manufacturers to help them be more successful in protecting the traveling public.

Within the TSA, it is the Operational Integration Division within the office of Operational Process and Technology that is responsible for conducting pilot testing of certified security equipment. Pilot testing is intended to verify the suitability of

equipment for full-scale deployment, including verification of manufacturers' claimed performance specifications in an operational, rather than laboratory, setting. Pilot tests are short-term activities that typically last several months or less. Equipment may be left in place at the completion of testing so that it can continue to be put to beneficial use.

Under a contract awarded competitively by the FAA in 1999, and later transferred to the TSA, RTSC provides a broad range of engineering services to the Operational Integration Division, including project management, engineering design, site preparation, installation supervision, and test data collection and analysis. Under my leadership, RTSC performed all of these services for the Reveal Pilot Project at Newark Airport. Stakeholders in the project included the TSA, both headquarters and local staff; the Port Authority of New York and New Jersey; Continental Airlines; Reveal Imaging; and RTSC.

The goal of the pilot project was to verify the capability of integrating Reveal machines (model CT-80) with a baggage handling system in a live airport environment. Up to this point, the Reveal machines had been tested at two other pilot sites, Gulfport and JFK, but only in a stand-alone configuration.

In a stand-alone configuration, neither the input nor output side of the machine is connected to the baggage handling system, and bags are moved by hand on and off the machine.

In an integrated configuration, at least one side of the machine is connected to the baggage handling system, facilitating automated baggage movement. If only one side of the machine is connected, the configuration is termed "partially integrated," and the two possibilities are "entry integrated" for the input side and "exit integrated" for the output side. If both sides of the machine are connected, the configuration is termed "fully integrated" or "in-line." Integrated configurations are more complex and costly to build, but, if proven to work, require less labor to operate.

In the Reveal Pilot Project, a trade-off was made on the number of machines to test. Three machines were chosen because of cost and space constraints. Two machines were to be configured in the exit integrated configuration and only one in the more expensive, fully integrated configuration.

The exit integrated configuration required bags to be moved from the baggage scales at the ticket counter to the input sides of the Reveal machines. Continental Airlines ticket agents could only place one bag on the in-feed conveyor at the same time. If a machine was busy when a ticket agent brought a bag to it, the agent would place the bag next to the machine and wait. At the exit ends of the Reveal machines a conveyor was used to automatically release cleared baggage onto the Continental Airlines takeaway conveyor belt or hold all baggage that alarmed for further inspection by a Transportation Security Officer.

The fully integrated configuration added an automated storage conveyor and in-feed conveyor so that the Continental Airlines ticket agents could place several bags on the

storage conveyor at the same time, and the bags would automatically be fed into the Reveal machine when the machine was ready. The addition of the storage conveyor increased the time the ticket agent could spend helping passengers check in.

During the design phase of the pilot project, other configurations were considered, including ones proposed by Reveal Imaging and Continental Airlines. Some configurations had the Reveal in-feed conveyors placed just behind the baggage scales at the ticket counter. Ultimately, the configurations chosen for the project were those that allowed the project goal to be met at the lowest installed cost.

Let me now turn to the actual execution of the pilot testing. The Reveal machines were installed around August 2005 and were ready for use before the conveyors and control systems needed for the integrated configurations were available. When that situation became clear, the TSA decided to add a preliminary test phase to the project, in which the Reveal machines would first be tested in a stand-alone configuration.

Phase 1, with the machines installed in the stand-alone configuration, ran from 31 August to 6 October 2005, during which time 3,594 bags were scanned.

Phase 2, with the machines reinstalled in the integrated configurations, ran from 24 October through 22 November 2005, during which time 19,269 bags were scanned.

One concern that arose during the project was getting the Continental Airlines ticket agents to use the Reveal machines. Using the machines required the agents to take on the

additional responsibility of moving bags. Prior to the pilot project, passengers were responsible for taking their bags over to the large explosive detection systems located adjacent to the ticket counter.

Initially, a number of issues were seen related to bag flow and bag jams on the entrance and exit belts; however, the majority of these problems were resolved quickly and easily, and their frequency was reduced with greater operator familiarity and practice.

In summary, the Reveal Pilot Project at Newark Airport was successful in validating exit and fully integrated configurations in an operational environment, which up until this point had not been tested in any of the other Reveal pilot tests. This was a significant step forward in demonstrating the capabilities of the Reveal machine.

Mr. Chairman, I would like to thank the Subcommittee for giving me the opportunity to testify, and I would be pleased to answer any questions you and the Members may have.